

Serial No. 10/038,054  
Amendment Response to OA of 07/29/05

### REMARKS

Claims 1-13 and 15-46 are pending in this application. Claims 3-7, 9-11, 13, 15-19 and 25-39 have been withdrawn by the Examiner from consideration. Claims 1-3, 10, 11, 13, 15, 20-22, 24, 40-43, and 46 been amended. Claims 4-9, 12, 16-19, 25-39, 44 and 45 have been cancelled. New Claims 47-51 have been added. Upon entry of this Amendment and Response, Claims 1-3, 10, 11, 13, 15, 20-22, 24, 40-43, 46, and 47-51 will be pending in this application.

Claims 1-3, 10, 11, 13, 15, 20-22, 24, 40-43, and 46 are amended *inter alia* to clarify the structure of the compounds and to use more conventional terms. For example, ring systems in the chemical structure in Claims 1 and 41 shows six-membered carbocycles with dashed bonds to indicate optional unsaturated bonds. The description of the ring systems states that the ring carbon atoms may optionally be replaced by heteroatoms such as nitrogen and/or oxygen. Rather than using confusing description of the ring systems to "contradict" the drawn structure, claims were amended by utilizing more conventionally acceptable terms. For example, the terms "cycloalkyl" typically refers to non-aromatic carbocyclic ring systems and "heterocycloalkyl" typically refers to non-aromatic cyclic ring systems that comprises one or more hetero ring atoms such as nitrogen and/or oxygen. Similarly, the term "aryl" typically refers to aromatic carbocyclic ring systems such as phenyl and naphthyl groups, and the term "heteroaryl" refers to aromatic cyclic ring system that comprises one or more hetero ring atoms such as nitrogen and/or oxygen.

In addition, the terms "cycloalkylene" is used in amended claims to indicate that these moieties comprise two atoms of attachments. In chemistry, it is generally recognized that terms such as "methylene", "cyclohexylene" and the like with an -ene ending denote moieties that have two atoms of attachments, whereas the terms such as "alkyl" (e.g., methyl, ethyl, phenyl, cyclohexyl) that have a "yl" ending denote moieties that have one atom attachment.

Some of the claims have been amended by deleting the term "non-racemic" when referring to a particular compound. The term "racemic" is used to describe a mixture of isomers not to a specific compound. A compound in and of itself can not be "racemic." A compound is

Serial No.: 10/038,054  
Amendment Response to OA of 07/29/05

either chiral or achiral, there is no such thing as a "racemic" compound. Accordingly, claims have been amended by deleting the term "non-racemic" when referring to any particular compound.

Moreover, some of the claims have been amended to indicate a particular attachment point of a particular bond. See, for example, Claims 1 and 11. In particular, the squiggly lines indicate the bond that is attached to other portion of the chemical structure. This clarification was made because in typical organic chemistry, a mere indication of a bond without more is often seen as an alkyl (i.e., methyl) substituent. Since the context of these claims clearly do not render that interpretation, appropriate claims were amended by adding a squiggly lines to indicate the bond that is attached to other portions of the chemical structure.

In addition to some of the reasons stated above, Claim 1 has been amended by incorporating the limitations of Claim 2.

Other amendments to the claims, such as describing the mesogenic core and the compounds of the present invention as being a rod-like chiral liquid crystal compound can be found throughout the specification. See, for example, lines 8-9 of page 1 in the Background of the Invention section ("the dopants [that] combine a rod-like mesogenic core with a chiral nonracemic [sic] tail and an achiral tail...."). See also, a schematic representation of compounds of the present invention on p. 2, line 8. For amendments related to the structure of mesogenic core moieties, see, for example, compounds disclosed in Scheme 1 and Table 1.

It appears that Claim 15 was erroneously withdrawn. Since Claim 15 is directed to achiral liquid crystal host, compounds claimed therein do not relate to chiral compounds that were the subject of the restriction requirement. Accordingly, Claim 15 has been represented.

#### **Rejection under 102**

Claims 1, 12, 20-24, 41-42 and 44 are rejected under 35 U.S.C. 102(b) as allegedly being anticipated by U.S. Patent No. 5,585,036, issued to Wand et al. (the '036 Patent). In particular, the Office Action alleges "the chiral compounds having a 2-fluoro-2-methyl tail in Tables 9 and

Serial No.: 10/038,054  
Amendment Response to OA of 07/29/05

10 ... read on the present claims." As amended, none of the pending claims comprise a chiral compound whose chiral moiety is 2-fluoro-2-methyl. Therefore, this rejection is moot.

Accordingly, Applicants respectfully request withdrawal of this rejection.

**Double Patenting**

Claims 1-2, 8, 12, 20-22 and 40-46 are rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 1-13, 15-23, 25, 27-35, and 38-43 of U.S. Patent No. 6,838,128. Applicants respectfully request that this issue be deferred until allowable subject matter is indicated.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 303-607-3614.

It is believed that no fees are due with this Response. If any such fees are due, however, then please debit such fees to Deposit Account 06-0029 and notify us of the same.

Dated: 20-OCT-05

Respectfully Submitted,  
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